

WHAT IS CLAIMED IS:

1. A silicon nitride sintered material comprising:
a silicon nitride component and silicon carbide; wherein
said silicon nitride component comprises silicon nitride;
said silicon carbide is present in an amount such that a mass ratio of
5 silicon carbide to the silicon nitride component is at least 1:100 and less than
4:100;
said silicon carbide has an average particle size of 1 μm or less and is
dispersed in the silicon nitride component; and
said sintered material has a thermal expansion coefficient of at least
10 3.7 ppm/ $^{\circ}\text{C}$ between room temperature and 1,000 $^{\circ}\text{C}$.
2. The silicon nitride sintered material according to claim 1,
wherein the silicon nitride component contains a rare earth element in an
amount of 15-25 mass% as reduced to a certain oxide thereof, and Cr in an
amount of 5-10 mass% as reduced to a certain oxide thereof.
3. The silicon nitride sintered material according to claim 2,
comprising an intergrain region and a crystalline phase present in the
intergrain region of the sintered material.
4. A process for producing a silicon nitride sintered material,
which comprises firing a raw material powder mixture containing a silicon
nitride component and silicon carbide, wherein said silicon nitride component

includes silicon nitride, said silicon carbide is present in an amount such that a
5 mass ratio of silicon carbide to the silicon nitride component is at least 1:100
and less than 4:100, and said silicon carbide has an average particle size of 1
μm or less.

5. The process for producing a silicon nitride sintered material
according to claim 4, wherein said silicon nitride sintered material comprises
an intergrain region and a crystalline phase which has precipitated in the
intergrain region.

6. A glow plug comprising:

a ceramic base member comprising the silicon nitride sintered
material of claim 1.

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